REMARKS

The Office Action rejected claims 1-11 as being directed to non-statutory subject matter. Applicant respectfully traverses this rejection. The patent statute enumerates several classes of inventions that may be patented. 35 USC §101 provides that:

> "Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title."

The United States Court of Appeals for the Federal Circuit has noted that the repetitive use of the expansive term "any" in § 101 shows Congress's intent not to place any restrictions on the subject matter for which a patent may be obtained beyond those specifically recited in § 101. *State Street Bank &Trust Co. v. Signature Fin. Group*, 149 F.3d 1368, 47 USPQ2d 1596 (Fed. Cir. 1998), *cert. denied*, 525 U.S. 1093 (1999). Moreover, the Supreme Court has acknowledged that Congress intended § 101 to extend to "anything under the sun that is made by man." *Diamond v. Chakrabarty,* 447 U.S. 303, 309 (1980); see also *Diamond v. Diehr,* 450 U.S. 175, 182 (1981). Thus, it is improper to read limitations into § 101 on the subject matter that may be patented where the legislative history indicates that Congress clearly did not intend such limitations. See *Chakrabarty*, 447 U.S. at 308 ("The Federal Circuit has also cautioned that courts should not read into the patent laws limitations and conditions which the legislature has not expressed." (citations omitted)). *State Street Bank & Trust Co. v. Signature Fin. Group, supra.*

In In re Alappat, 33 F.3d 1526, 31 USPQ2d 1545 (Fed. Cir. 1994), the Federal Circuit considered the issue of the patentability of a rasterizer used in an oscilloscope. The invention was generally directed to a process and apparatus for creating a smooth waveform display in a digital oscilloscope. However, the PTO Examiner rejected certain claims of Allapat's patent application as being directed to unpatentable subject matter, on grounds that those claims recited a mathematical algorithm. A first Board of Appeals panel reversed the Examiner stating that

although the subject claim 15 recited a mathematical algorithm, the claim as a whole was directed to a machine and thus to statutory subject matter. In a reconsideration decision the Board of Appeals reversed the prior panel and held the claims were properly rejected.

The Federal Circuit *en banc* panel in *In re Allapat* held that the "dispositive inquiry is whether the claim as a whole is directed to statutory subject matter, [and] it is irrelevant that a claim may contain, as part of the whole, subject matter which would not be patentable by itself. In that case, "the fact that [certain means elements] function to transform one set of data to another through what may be viewed as a series of mathematical calculations does not alone justify a holding that the claim as a whole is directed to nonstatutory subject matter".

In re Lowry, 32 F.3d 1579, 32 USPQ2d 1031(Fed.Cir. 1994) held that data structures constitute patentable subject matter. In *Lowry*, the invention (assigned to Digital Equipment Corporation) had to do with attribute data objects (ADO's).1 Lowry's patent application -- "Data Processing System Having a Data Structure with a Single, Simple Primitive" -- related to the storage, use, and management of information residing in a memory. The Patent and Trademark Office (PTO) did not dispute the features and advantages of Lowry's claimed invention. The invention provides an efficient, flexible method of organizing stored data in a computer memory. The Federal Circuit held that the (PTO) must consider all claim limitations when determining patentability of an invention over the prior art. Thus, the court stated: "Lowry's ADOs do not represent merely underlying data in a database. ADOs contain both information used by application programs and information regarding their physical interrelationships within a memory. Lowry's claims dictate how application programs manage information. Thus, Lowry's claims define functional characteristics of the memory."

The Court further stated: "While the information content affects the exact sequence of bits stored in accordance with Lowry's data structures, the claims require specific electronic

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[1] According to the court, an ADO (or attribute data object) is a single primitive data element "comprising sequences of bits which are stored in the memory as electrical (or magnetic) signals that represent information." It contains information used by the application program and information regarding its relationship with other ADOs. A primitive is a fundamental instruction, statement, or operation.

structural elements which impart a physical organization on the information stored in memory. Lowry's invention manages information. As Lowry notes, the data structures provide increased computing efficiency. If a machine is programmed in a certain new and unobvious way, it is physically different from the machine without that program; its memory elements are differently arranged. The fact that these physical changes are invisible to the eye should not tempt us to conclude that the machine has not been changed." In re Lowry, 32 F.3d 1579, 32 U.S.P.Q.2d 1031, (Fed. Cir. 1994).

In *In re Beauregard,* 53 F.3d 1583 (Fed. Cir 1995), the Commissioner of Patents and Trademarks concluded that "computer programs embodied in a tangible medium, such as a floppy diskette, are patentable subject matter under 35 U.S.C. §101 and must be examined under 35 U.S.C. §102 and §103." The statutory category of the claims in Beauregard was the "[article of manufacture]" category.

There is no judicially recognized separate "technological arts" test for determining whether a claimed process or method constitutes patentable subject matter under 35 U.S.C. Section 101. An application claiming a method of compensating manager of business was improperly rejected, even though it is not tied to "technological arts" *Ex parte Lundgren,* 76 USPQ2d 1385 (BdPatApp&Int 2005).

The Examiner's reliance on *In re Warmerdam*, 33 F.3d 1354 (Fed. Cir. 1994) is misplaced. In *Warmerdam*, the court actually allowed a claim to a machine having a memory containing data that was thought to be non-statutory because it involved a manipulation of abstract ideas (claim 5 was directed to a machine and clearly patentable subject matter). See *Warmerdam,* 33 F.3d at 1360. Moreover, the present claims are closer to those of Lowry which were upheld by the Federal Circuit. Claim 1 is clearly directed to the "process" category of patentable subject matter. Moreover, it is not merely directed at abstract ideas, it is directed at a method of identifying regions in the memory of a target application. It recites concrete steps to be performed on the data structures.

A claim at issue in *Lowry* was:

> 1. A memory for storing data for access by an application program being executed on a data processing system, comprising:
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> a data structure stored in said memory, said data structure including information

resident in a database used by said application program and including:

a plurality of attribute data objects stored in said memory, each of said attribute data objects containing different information from said database;

a single holder attribute data object for each of said attribute data objects, each of said holder attribute data objects being one of said plurality of attribute data objects, a being-held relationship existing between each attribute data object and its holder attribute data object, and each of said attribute data objects having a being-held relationship with only a single other attribute data object, thereby establishing a hierarchy of said plurality of attribute data objects;

a referent attribute data object for at least one of said attribute data objects, said referent attribute data object being nonhierarchically related to a holder attribute data object for the same at least one of said attribute data objects and also being one of said plurality of attribute data objects, attribute data objects for which there exist only holder attribute data objects being called element data objects, and attribute data objects for which there also exist referent attribute data objects being called relation data objects; and

an apex data object stored in said memory and having no being-held relationship with any of said attribute data objects, however, at least one of said attribute data objects having a being-held relationship with said apex data object.

The USPTO rejected Lowry's claims as directed to non-patentable subject matter. The Federal circuit reversed. Not surprisingly, the Office Action does not consider the holding in *Lowry*. Instead cites *AT& T Corp. v. Excel Communications Inc.*, 172 F.3d 1352, 50 USPQ2d 1447 (Fed. Cir. 1999) but overlooks the holding in that case. That case actually reversed a finding of lack of patentable subject matter. Far from citing *Warmerdam* with approval, the Federal Circuit said that "the decision in *Warmerdam* [citation omitted] is not to the contrary." In other words not even a case like Warmerdam is contrary to the holding in *AT&T*.

Claim 10 is also clearly directed to statutory subject matter – a computer-readable medium. *In re Beauregard, supra*. Claim 11 is directed to a machine and is clearly statutory.

The Examiner also rejected the claims under 35 USC §112, first paragraph alleging that the applicant has not shown a practical application and there is no way that the Applicant could have disclosed how to practice the undisclosed practical application. The applicant respectfully traverses this conclusion. The application is directed to the area of information processing and perhaps in today's modern technology there is no more practical application. The Examiner does

not point out any specifics of how the specification is deficient in its enablement but instead relies on the erroneous conclusion that the invention is directed to abstract concepts. Claims 2-9 are dependent on claim 1 and hence are directed to patentable subject matter for the above reasons. For the foregoing reasons, Applicant respectfully requests allowance of the pending claims.

Respectfully submitted,

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I hereby certify that this Amendment and Response to Office Action, and any documents referred to as attached therein are being deposited with the United States Postal Service as First Class Mail on the date below, to the Commissioner for Patents, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450.

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